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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------------|------------------------|
| 10/709,908 | 06/04/2004 | Hiroyuki Ide | 991300a | 3907 |
| 23850 7590 01/11/2008 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005 | | | EXAMINER CHEN, CHIA WEI A | |
| | | | ART UNIT 2622 | PAPER NUMBER |
| | | | MAIL DATE 01/11/2008 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/709,908 | | IDE, HIROYUKI | |
| | Examiner | | Art Unit | |
| | Chia-Wei A. Chen | | 2622 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/441,233.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/441233.

Information Disclosure Statement

2. The references listed on the Information Disclosure Statement filed on 06/04/2004 and 06/21/2004 have been considered by the examiner (see attached PTO/SB/08).

Drawings

3. Figure 32 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Although updated drawings were filed, Figure 32 is still missing.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

5. The use of parentheses in claim 1 is improper since parentheses are used only for reference characters; see MPEP 608.1(m).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 1-6 ^{are} rejected under 35 U.S.C. 102(e) as being anticipated by Yanai (US 2003/0156209 A1).

Claim 1, Yanai teaches an imaging device in Figure 11, comprising:

- a color filter formed by a plurality of color elements each of which has any one of N (N: integer more than one) of colors (paragraph 0030);
- an imager (solid state image sensing device) having a plurality of pixels (paragraph 0031); and
- a provider for providing a drive pulse to said imager (driving pulses; paragraph 0029), wherein the plurality of color elements are divided into a plurality of color blocks each of which has a plurality of horizontal color element rows and N of vertical color element columns,

- the plurality of pixels are divided into a plurality of pixel blocks each of which has a plurality of horizontal pixel rows and N vertical pixel columns (The CFA and image sensor may be arbitrarily divided into blocks of horizontal rows and vertical color element columns. The prior art teaches the claimed invention without especially teaching a explicit division of color element or pixel blocks.),
- the N vertical color element columns respectively include N color elements which are different in colors with each other (paragraph 0030; Fig. 4),
- the plurality of horizontal pixel rows respectively correspond to the plurality of horizontal color element rows, the N vertical pixel columns respectively correspond to the N vertical color element columns (respective pixels 1 are covered with elements of the color filter array shown in Figs. 4, 5; paragraph 0031), and
- the drive pulse includes
 - a reading pulse for reading pixel signals from the N vertical pixel columns in a thinning out manner (unread pixels are swept out; paragraph 0034),
 - a vertical transfer pulse for transferring the pixel signals read by the reading pulse in a vertical direction (vertical transfer pulses $\Phi V1$ - $\Phi V8$ for transferring charges to the corresponding vertical transfer elements; paragraph 0029), and
 - a horizontal transfer pulse for transferring the pixel signals transferred by the vertical transfer pulse in a horizontal direction (signal charges transferred in the horizontal direction; paragraph 0035; Fig. 11).

every time a vertical transfer corresponding to the plurality of horizontal pixel rows is performed (paragraph 0035), and

the color elements corresponding to pixels selected for reading of the pixel signals from the N vertical pixel columns have different colors for each vertical pixel column (paragraph 0035; Fig. 12-14).

Claim 2, Yanai teaches an imaging device according to claim 1, wherein one pixel of pixel signal is read out from one vertical pixel column forming one pixel block (One pixel signal is read out at a time. Although there is no explicit division of pixel blocks, one pixel is read out at a time from each vertical pixel column into the horizontal register; paragraph 0034; Fig. 6-10)

Claim 3, Yanai teaches an imaging device according to claim 1, wherein each of the N vertical color element columns includes two or more of color elements which have the same color (paragraph 0030; Fig. 4), and a plurality of pixels of pixel signals are read out from each of the N vertical pixel columns (paragraph 0034-0035; Fig. 11).

Claim 4, Yanai teaches an imaging device according to claim 1, wherein the pixel signals are read out from each of the plurality of pixel blocks such that intervals of the horizontal pixel rows each of which includes pixels for reading becomes equal (All horizontal pixel rows are read out simultaneously; paragraph 0036; Fig. 11-14).

Claim 5, Yanai teaches an imaging device according to claim 1, wherein the N colors are green, magenta, yellow and cyan, color elements of the green and the magenta are

alternately arranged on one of odd number of horizontal color element rows and even number of horizontal color elements rows, and color elements of the yellow and cyan are alternately arranged on another of the odd number of horizontal color element rows and the even number of horizontal color element rows (paragraph 0030, Fig. 4; The rows may be shifted up or down to correspond to the claimed even or odd horizontal rows.).

Claim 6, Yanai teaches a digital camera comprising an imaging device according to any one of claims 1 to 5 (video camera; paragraph 0038).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yanai et al. (US 2003/0057354) teaches an image pickup device with a color filter array.

Yokouchi et al. (US 6,628,328) teaches an image pickup apparatus having a CPU driving function operable in two modes.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chia-Wei A. Chen whose telephone number is 571-270-1707. The examiner can normally be reached on Monday - Friday, 7:30 - 17:00 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cac
1/4/08



NGOCYEN VU
SUPERVISORY PATENT EXAMINER